**Do Now:** Solve each inequality and graph the solutions on a number line

1. **-3s ≥ 3 2) -m+2 < 4m-8**

True or False?

3) -3 > 3\_\_\_\_\_\_\_\_ 4) 5 <0 \_\_\_\_\_\_\_ 5) -1 ≥-1\_\_\_\_\_\_\_\_

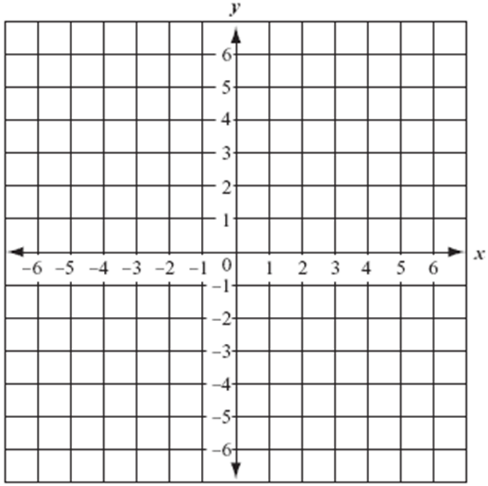
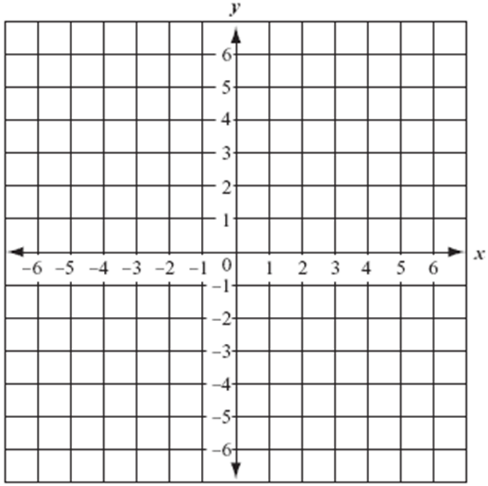
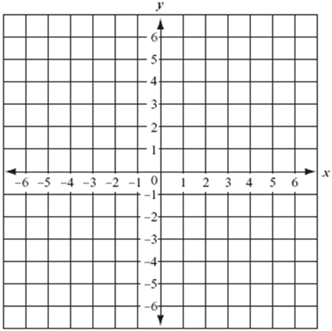
Systems of inequalities have\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**For Example:** System of Equations🡪 y = 2/3x-4 System of Inequalities🡪 y > 2/3x-4

y = -2x+5 y -2x+5

|  |  |  |
| --- | --- | --- |
| **Graphing** | | |
|  | **< or >** | **≥ or ≤** |
| **Then** |  |  |
| **Now**  **(system)** |  |  |

|  |  |  |
| --- | --- | --- |
| **Shading Solutions** | | |
| **> or ≥** |  |  |
| **< or** |  |  |

**Ex 1:** Graph y > -x +6 **Ex 2:** Graph x -3 **Ex 3:** Graph y ≤-3

Line:\_\_\_\_\_\_\_\_\_\_\_\_\_ Line:\_\_\_\_\_\_\_\_\_\_\_\_\_ Line:\_\_\_\_\_\_\_\_\_\_\_\_\_

Shade:\_\_\_\_\_\_\_\_\_\_\_ Shade:\_\_\_\_\_\_\_\_\_\_\_\_ Shade:\_\_\_\_\_\_\_\_\_\_\_

Solution?\_\_\_\_\_\_\_\_\_ Solution?\_\_\_\_\_\_\_\_\_ Solution?\_\_\_\_\_\_\_\_\_

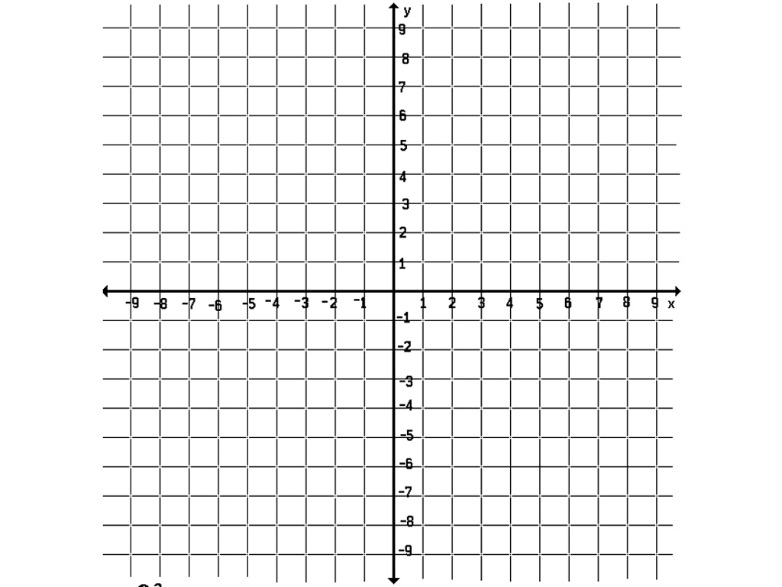
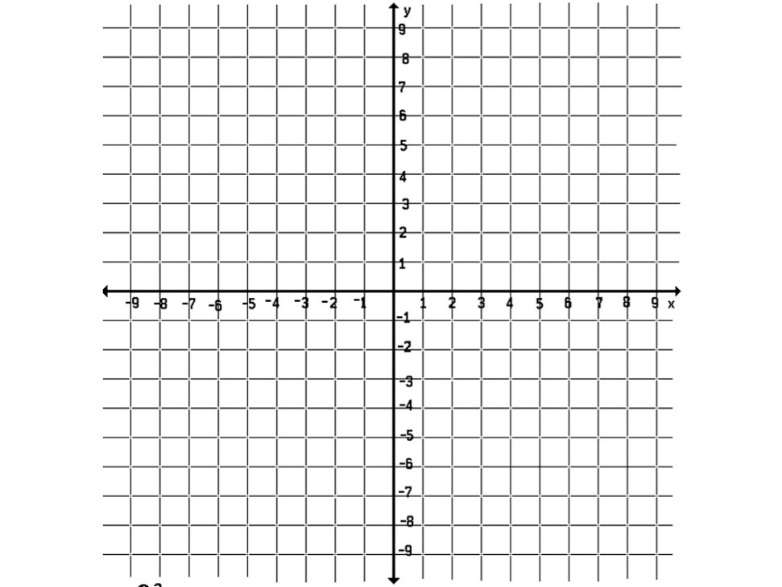
**Note:**

**Check For understanding**

1. Check whether (0,0) is a solution to each inequality. Show your work!

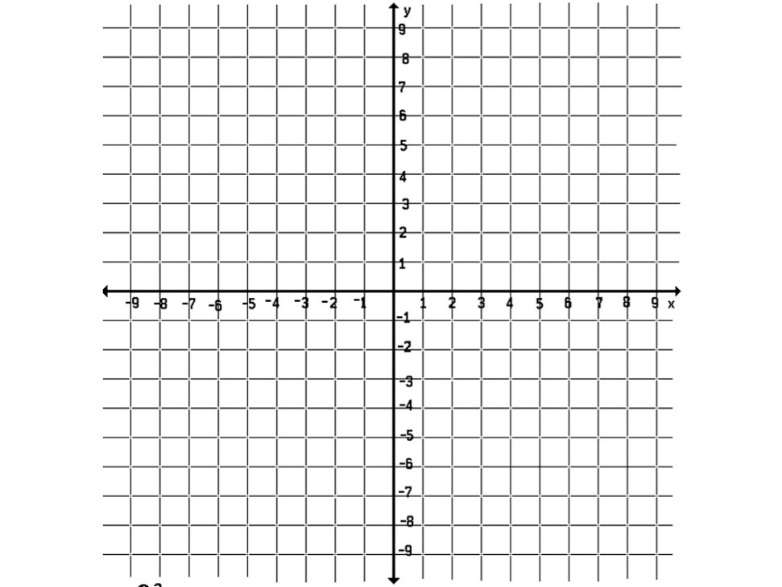
a) x-y < 5 b) 3x+y ≥ 1 c) -2y+1 > -3x

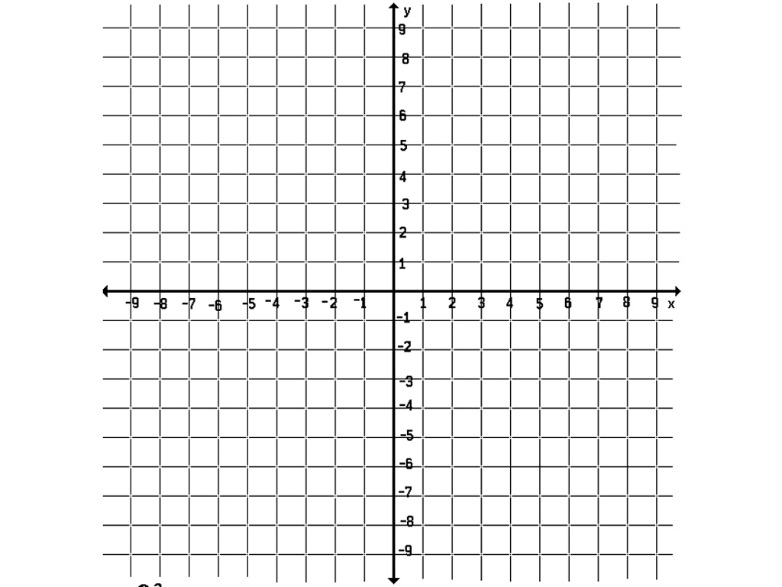
2. Graph each inequality, shade the solutions, and identify 2 points that are and aren’t solutions

1. Y < 2x+5 b) y ≤ x -3

Solution?:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Solution?:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

NON-Solution?:\_\_\_\_\_\_\_\_\_\_ NON-Solution?:\_\_\_\_\_\_\_\_\_\_

 c) y > d) y ≥ - x +1

****

Solution?:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Solution ?:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

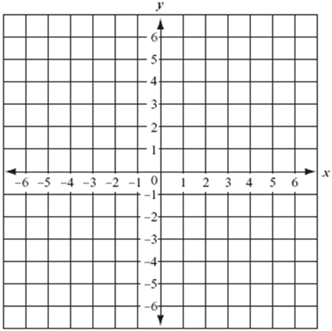
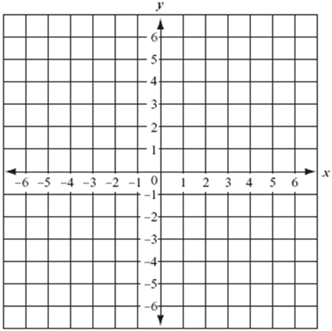
NON-Solution?:\_\_\_\_\_\_\_\_\_\_ NON-Solution ?:\_\_\_\_\_\_\_\_\_\_

**Solutions to systems of inequalities:**

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

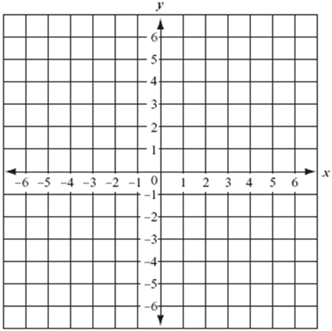
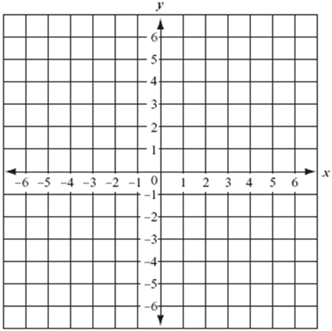
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Ex 1: y ≤ x – 3 Ex 2: y ≥ -2x + 2

y < -2 y > -4x

**Possible Solutions:**

**Not Solutions:**

 Ex 3:  Ex4:

**Possible Solutions:**

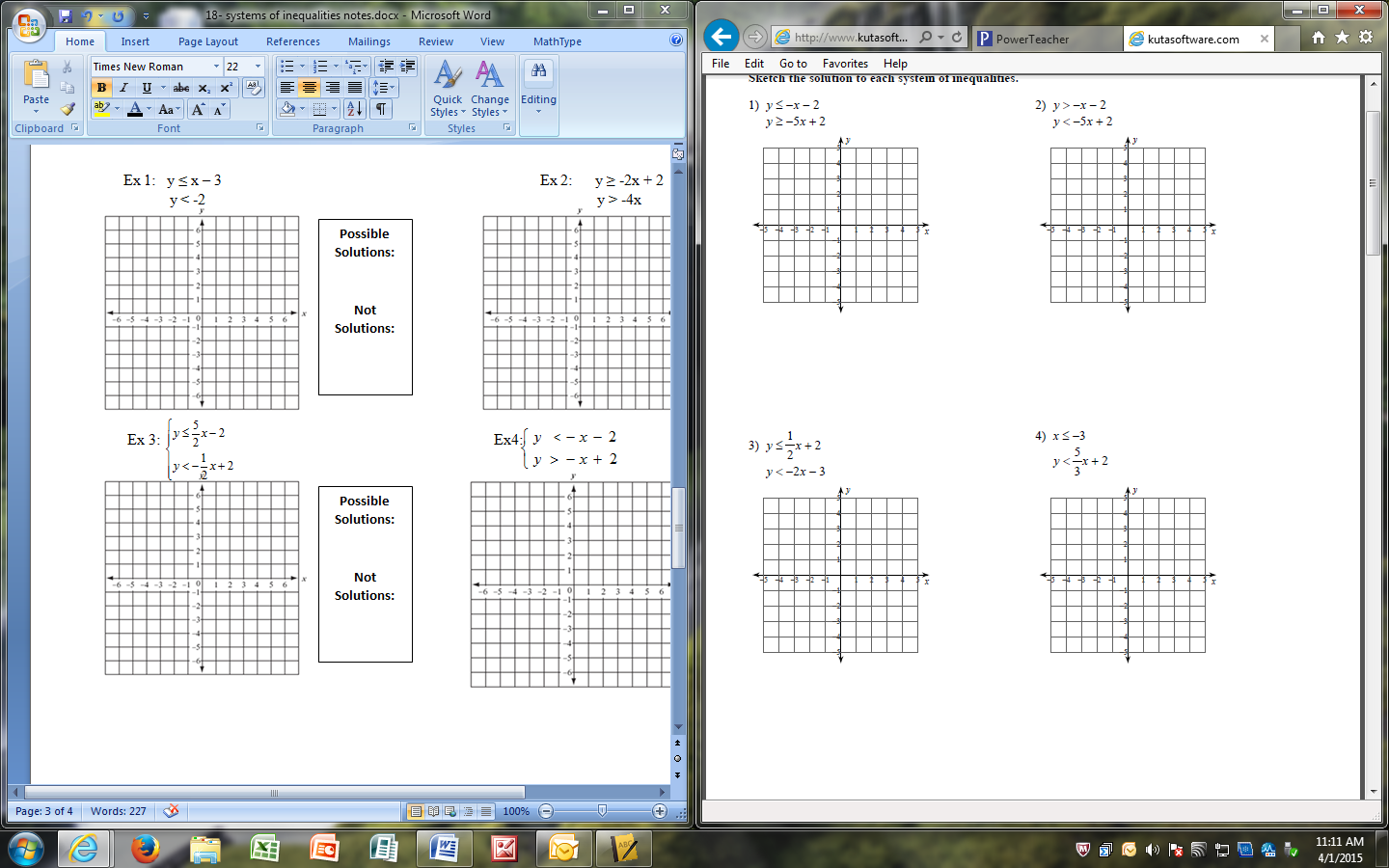
**Not Solutions:**

<

Explain what happened?

Is there a solution?

**Check For Understanding**

****

**1)**

a) (-1,1) is solution: T F

b) (-4,2) is a solution: T F

a) (0,0) is solution: T F

b) (2,-4) is a solution: T F

**3)**